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What is claimed is:

1.   In a receiver that receives a modulated signal having
multiple levels and having an equalizer with plural
equalization settings for compensating for distortion in
the received signal, a method of selecting one of the
plural equalization settings that provides an optimum
compensation for the distortion, comprising:

      (A) for each one of the equalizer settings:

          setting the equalizer to the one setting;

          defining valid regions encompassing each of the
multiple levels of said modulated signal and invalid
regions not encompassing the multiple levels;

          computing a first metric comprising a count of
samples within said invalid regions;

          computing a second metric comprising
differences less than a predetermined threshold between
pairs of samples falling within the same valid region;

          combining the first and second metrics to
produced a combined metric for said one setting;

      (B) choosing the equalizer setting corresponding to
the best combined metric.

2.   The method of Claim 1 wherein said invalid regions
lie generally between the valid regions.

3.   The method of Claim 1 wherein each valid region
includes a range of amplitudes within a predetermined
fraction of the amplitudes of the corresponding multiple
level.

1　　4.　The method of Claim 1 wherein each invalid region
2　　includes a range of amplitudes deviating by more than a
3　　predetermined fraction of a peak amplitude from the
4　　corresponding multiple level.

1　　5.　The method of Claim 3 wherein the predetermined
2　　threshold corresponds to a fraction less than the
3　　predetermined fraction.

1　　6.　The method of Claim 5 wherein the predetermined
2　　fraction corresponds to 10% and the predetermined
3　　threshold corresponds to 5%.

1　　7.　The method of Claim 1 wherein each of the pairs of
2　　samples falling within the valid region comprise two
3　　samples occurring successively.

1　　8.　The method of Claim 7 wherein a sample intervening
2　　chronologically between the two successive samples but
3　　not falling within the same valid region is ignored for
4　　purposes of determining successive samples.

1　　9.　The method of Claim 1 wherein the first metric is a
2　　measure of the deviation of samples from valid signal
3　　levels of the multistate signal and the second metric is
4　　a measure of the consistency of samples about each valid
5　　signal level.

1　　10.　The method of Claim 1 wherein the combined metric is
2　　a difference between said first and second metrics.

1   11.   The method of Claim 10 wherein the best combined
2   metric is the least positive or most negative metric.

1   12.   The method of Claim 1 wherein the combined metric is
2   a ratio between said first and second metrics.

1   13.   The method of Claim 1 wherein each equalizer setting
2   corresponds to a different transfer function of the
3   equalizer.

1   14.   The method of Claim 1 wherein each transfer function
2   corresponds to a unique set of poles and zeroes
3   corresponding to a particular reactance.

1   15.   The method of Claim 1 wherein the step of computing
2   the second metric is carried out for sample pairs in each
3   of the valid regions, the number of differences not
4   exceeding the threshold being summed across all valid
5   regions.

1   16.   A receiver that receives a modulated signal having
2   multiple levels, said receiver comprising:
3   an equalizer with plural equalization settings for
4   compensating for distortion in the received signal; and
5   an adapter for selecting one of the plural
6   equalization settings that provides an optimum
7   compensation for the distortion at the output of the
8   equalizer, said adapter comprising:
9   means for setting the equalizer to the one
10   setting;

11   means for defining valid regions encompassing
12 each of the multiple levels of said modulated signal and
13 invalid regions not encompassing the multiple levels;
14   means for computing a first metric comprising a
15 count of samples within said invalid regions;
16   means for computing a second metric comprising
17 differences less than a predetermined threshold between
18 pairs of samples falling within the same valid region;
19   means for combining the first and second
20 metrics to produced a combined metric for said one
21 setting and choosing the equalizer setting corresponding
22 to the best combined metric.

1   17.   The receiver of Claim 16 wherein said invalid
2   regions lie generally between the valid regions.

1   18.   The receiver of Claim 16 wherein each valid region
2   includes a range of amplitudes within a predetermined
3   fraction of the amplitudes of the corresponding multiple
4   level.

1   19.   The receiver of Claim 16 wherein each invalid region
2   includes a range of amplitudes deviating by more than a
3   predetermined fraction of a peak amplitude from the
4   corresponding multiple level.

1   20.   The receiver of Claim 18 wherein the predetermined
2   threshold corresponds to a fraction less than the
3   predetermined fraction.

1   21.   The receiver of Claim 20 wherein the predetermined

2   fraction corresponds to 10% and the predetermined

3   threshold corresponds to 5%.

1   22.   The receiver of Claim 16 wherein each of the pairs

2   of samples falling within the valid region comprise two

3   samples occurring successively.

1   23.   The receiver of Claim 22 wherein a sample

2   intervening chronologically between the two successive

3   samples but not falling within the same valid region is

4   ignored for purposes of determining successive samples.

1   24.   The receiver of Claim 16 wherein the first metric is

2   a measure of the deviation of samples from valid signal

3   levels of the multistate signal and the second metric is

4   a measure of the consistency of samples about each valid

5   signal level.

1   25.   The receiver of Claim 16 wherein the combined metric

2   is a difference between said first and second metrics.

1   26.   The receiver of Claim 25 wherein the best combined

2   metric is the least positive or most negative metric.

1   27.   The receiver of Claim 16 wherein the combined metric

2   is a ratio between said first and second metrics.

1   28.   The receiver of Claim 16 wherein each equalizer

2   setting corresponds to a different transfer function of

3   the equalizer.

1   29.   The receiver of Claim 28 wherein each transfer

2   function corresponds to a unique set of poles and zeroes

3   corresponding to a particular reactance.